



National Emission Standards for Hazardous Air Pollutants for (1) Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand Alone Semichemical Pulp Mills; (2) Petroleum Refineries, Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units; (3) Manufacturing of Nutritional Yeast; (4) Wet Formed Fiberglass Mat Production; (5) Leather Finishing Operations; (6) Cellulose Products Manufacturing; and (7) Tire Manufacturing

LSA Document #02-336

Overview

This rulemaking adds national emission standards for hazardous air pollutants (NESHAP) for new and existing plant sites for seven categories of sources.

Citations Affected

Adds 326 IAC 20-49, 326 IAC 20-50, 326 IAC 20-51, 326 IAC 20-52, 326 IAC 20-53, 326 IAC 20-54, and 326 IAC 20-55.

Affected Persons

Businesses affected by this rule are:

- (1) two (2) chemical recovery combustion sources that recover pulping chemicals by burning spent pulping liquor, designated as Standard Industrial Classification (SIC) codes 2611, 2621, and 2631 or North American Industry Classification System (NAICS) 32211, 32212, and 32213;
- (2) certain process vents at two (2) petroleum refineries designated as SIC code 2911 or NAICS 32411;
- (3) nutritional yeast manufacturers designated as SIC code 2099 or NAICS 311999, although no potentially affected sources have been identified in Indiana;
- (4) wet-formed fiberglass mat production designated as SIC code 3229 and NAICS 327212, although no potentially affected sources have been identified in Indiana;
- (5) leather finishing operations designated SIC code 3111 or NAICS 3161, although no

potentially affected sources have been identified in Indiana;

(6) one (1) cellulose products manufacturing source, designated as NAICS codes 326121, 325221, 326199, 325211, 325199; and

(7) four (4) tire manufacturing sources designated SIC codes 3011, 7534, and 2296 or NAICS 326211, 326212, 314992.

Reason for the Rule

IDEM must incorporate the federal NESHAP requirements into state rules or establish state requirements that are no less stringent.

Economic Impact of the Rule

Because these emission standards are federal requirements and businesses are required to comply with the federal requirements, the state rulemaking will not result in additional costs to the regulated entities beyond the costs imposed by the federal rules.

Benefits of the Rule

This regulation reduces various hazardous air pollutants from several sources.

Description of the Rulemaking Project

The 1990 Amendments to the Clean Air Act require the United States Environmental Protection Agency (U.S. EPA) to regulate major sources of hazardous air pollutants. A major source is defined as any stationary source or group of stationary

sources located within a contiguous area and under common control that has the potential to emit as a whole, considering controls, ten (10) tons per year or more of any single hazardous air pollutant (HAP) or twenty-five (25) tons per year or more of any combination of hazardous air pollutants. The Clean Air Act requires U.S. EPA to develop emission standards, referred to as national emission standards for hazardous air pollutants (NESHAPs), that require the application of air pollution reduction measures based on maximum achievable control technology (MACT) for a list of source categories. The MACT floor is the minimum control level allowed for NESHAPs and ensures that the standard is set at a level that assures all existing major sources achieve a level of control at least as stringent as that already achieved by the better-controlled and lower-emitting sources in each source category or subcategory. For new sources, the MACT floor cannot be less stringent than the emission control that is achieved in practice by the best-controlled similar source. This rulemaking will incorporate by reference the following NESHAPs:

(1) Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand Alone Semichemical Pulp Mills

On January 12, 2001, U.S. EPA issued a final NESHAP (66 FR 3180) to reduce HAPs from chemical recovery combustion sources at kraft, soda, sulfite, and stand alone semichemical pulp mills. A kraft pulp mill produces pulp from wood by digesting wood chips in a solution of sodium hydroxide and sodium sulfide, a soda pulp mill produces pulp from wood by digesting wood chips in a sodium hydroxide solution, and a sulfite pulp mill produces pulp from wood by digesting wood chips in a solution of sulfurous acid and bisulfite ions. Chemical recovery combustion sources recover pulping chemicals by burning spent pulping liquor. The national standard will reduce emissions of gaseous organic HAP and HAP metals. Other pollutants reduced are particulate matter, volatile organic compounds, carbon monoxide, and sulfur dioxide.

The final rule allows the use of a “bubble compliance alternative” for determining compliance with the particulate matter emission limits for existing process units at kraft and soda pulp mills.

The “bubble compliance alternative” allows mills to set particulate matter emission limits for each existing process unit in the chemical recovery system at the mill such that, if these limits are met, the total emissions from all existing process units are less than or equal to a mill specific bubble limit. Some mills will be able to achieve the required emissions reductions by upgrading or installing control devices, such as electrostatic precipitators, wet scrubbers, fiber-bed demisters, or regenerative thermal oxidizers. Compliance options include complying with the particulate matter emission limits or bubble compliance alternative for kraft and soda combustion units and complying with the emission limit or percent reduction standard for semichemical combustion units. Existing sources subject to the regulation must comply by March 13, 2004, and new and reconstructed sources must comply at initial startup.

(2) Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, Sulfur Recovery Units

On April 11, 2002, U.S. EPA issued a final NESHAP (67 FR 17762) to reduce HAPs from process vents on catalytic cracking units (CCUs) that regenerate catalyst, catalytic reforming units that regenerate catalyst, and sulfur recovery units as well as associated by-pass lines at petroleum refineries.

Petroleum refineries emit a variety of HAPs that vary by facility and process operations, but may include: organics (acetaldehyde, benzene, formaldehyde, hexane, phenol, toluene, and xylene); reduced sulfur compounds (carbonyl sulfide, carbon disulfide); inorganics (hydrogen chloride, chlorine); and particulate metals (antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, and nickel). Non-HAP pollutants reduced are particulate matter, volatile organic compounds, carbon monoxide, and hydrogen sulfide.

Facilities can reduce emissions of HAPs and other pollutants and meet the standards using a variety of approaches. Refineries affected by the standards can install new control devices, upgrade existing emission controls, or implement specific measures that will reduce emissions. If the affected source is also subject to the New Source Performance Standard (NSPS), complying with the NSPS emission limitations also allows a source to comply

with the MACT standard. The federal rule also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and work practice standards. Existing sources subject to the regulation must comply by April 11, 2005, and new and reconstructed sources must comply at initial startup. The compliance date may be extended for existing catalytic cracking units (CCU) located at a petroleum refinery that commits to hydrotreating the CCU feed to comply with the gasoline sulfur control requirements in the Tier 2 Motor Vehicle Emission Standards (40 CFR 80) and the applicable emission limitations in this NESHAP (40 CFR 63, subpart UUU).

(3)Manufacturing of Nutritional Yeast

A final NESHAP was issued by U.S. EPA on May 21, 2001 (66 FR 27876) to reduce HAPs from the manufacturers of varieties of *Saccharomyces cerevisiae*, nutritional yeast made for the purpose of becoming an ingredient in dough for bread or other yeast-raised baked products and for becoming a nutritional food additive intended for consumption by humans. These standards will eliminate approximately thirteen percent (13%) nationwide of acetaldehyde that is a by-product of the fermentation process. To achieve the emission limits, facilities must regulate the yeast growth by process control of sugar and oxygen to the yeast. Emission limits on the fermentation process result in lower air emissions from the fermentation tanks and this process control also results in lower concentration of acetaldehyde in the wastewater.

The compliance date for existing sources is no later than May 21, 2004 and upon start up for new sources.

(4)Wet-Formed Fiberglass Mat Production

On April 11, 2002, U.S. EPA issued a final NESHAP (67 FR 17824) to reduce HAPs from wet-formed fiberglass mat production. Wet-formed fiberglass mat is the substrate for several asphalt roofing products. In wet-formed fiberglass mat production, glass fibers are bonded with an organic resin. The mat is formed as the resin is dried and cured in heated ovens. The majority of HAP emissions associated with wet-formed fiberglass mat production are emitted from the drying-and- curing oven exhaust. The fiberglass

mat is produced at both stand-alone facilities and those collocated with asphalt roofing and processing facilities. The primary organic HAPs emitted by these facilities are formaldehyde, methanol, and vinyl acetate. This federal rule will reduce emissions of HAPs from the drying and curing ovens at these facilities by approximately seventy-four percent (74%) from the current level of emissions nationwide.

This NESHAP regulates emissions of formaldehyde as a surrogate for total HAP emissions. Control of formaldehyde by thermal oxidation will also result in control of vinyl acetate and methanol. An affected facility must meet either a mass HAP emission limit or percentage reduction requirement for each drying-and-curing oven. The operating limits require a source to maintain certain process or control device parameters within the levels established during the initial performance test. Compliance options include mass emission limits or percent reduction standards. Compliance with the standards can be achieved through the use of a thermal oxidizer, other control devices, or process modifications that meet the standards. Existing sources subject to the regulation must comply by April 11, 2005, and new sources must comply upon startup.

(5)Leather Finishing Operations

On February 27, 2002, U.S. EPA issued a final NESHAP (67 FR 9156) to reduce HAPs from leather finishing operations. In general, a leather finishing operation is a single process or group of processes used to adjust and improve the physical and aesthetic characteristics of the leather surface including upholstery leather, specialty leather, or water-resistant leather. The operation is a multistage application of a coating comprised of dyes, pigments, film-forming materials, and performance modifiers dissolved or suspended in liquid carriers. According to the federal notice, the national standard will reduce emissions of HAPs, such as glycol, toluene, and xylenes, by approximately fifty-one percent (51%) nationwide. Non-HAP emissions of VOCs will also be reduced.

The emission standards limit the number of pounds of HAPs lost per square foot of leather processed. To demonstrate compliance, a source must provide a detailed description of all methods of measurement

that will be used to determine the amount of usage of the finish substance, HAP content of each finish substance, quantity of leather processed and leather product process operation type. If the value of the compliance ratio of actual HAP loss to allowable HAP loss is less than or equal to one (1.00), an affected source is in compliance with the applicable HAP emission limits. Existing sources subject to the regulation must comply by February 28, 2005, and new and reconstructed sources must comply at initial startup.

(6)Cellulose Products Manufacturing

On June 11, 2002, U.S. EPA issued a final NESHAP (67 FR 40044) to reduce HAPs from facilities manufacturing cellulose products such as rayon, cellulose sponges, cellulose food casings, and cellophane. Cellulose products manufacturing includes both the miscellaneous viscose process source category and the cellulose ether production source category. The miscellaneous viscose process source category is comprised of cellulose food casing, rayon, cellulose sponge and cellophane manufacturing industries. The cellulose ethers production source category is comprised of methyl cellulose, hydroxypropyl methyl cellulose, hydroxypropyl cellulose, hydroxyethyl cellulose and carboxymethyl cellulose manufacturing industries. Cellulose ethers are used as thickeners and binders in industrial, food and pharmaceutical products including toothpaste, shampoo and the gel in disposable diapers. Cellulose ethers are also used as an additive to drilling mud. The regulation will reduce emissions of carbon disulfide, carbonyl sulfide, toluene, ethylene oxide, methanol, methyl chloride, propylene oxide and other air toxics. The federal rule will also reduce hydrogen sulfide emissions. The federal rule establishes emission limits, operating limits, and work practice standards as well as initial and continuous compliance requirements, and notification, reporting, and recordkeeping requirements.

The emission limits are in the form of a percent reduction requirement. Facilities will be required to reduce the emissions by certain percentages based on the type of product being produced. Most existing sources must comply by June 13, 2005. However, the final standards also give existing rayon operations until 2010 to comply with the

forty percent (40%) reduction emission limit and associated operating limits and work practice standards. New sources must comply at initial startup.

(7)Rubber Tire Manufacturing

On July 9, 2002, U.S. EPA issued a final NESHAP (67 FR 45588) to reduce HAPs from rubber tire manufacturing. Rubber tire manufacturing includes the production of rubber tires, the production of components integral to rubber tires, the production of tire cord, and the application of puncture sealant. Components of a rubber tire include, but are not limited to, rubber compounds, sidewalls, tread, tire beads, tire cord and liners. Other components often associated with rubber tires but not integral to the tire, such as wheels, inner tubes, tire bladders, and valve stems, are not components of rubber tires or tire cord and are not subject to this rule.

Tire production is the collection of all processes that use or process cements and solvents located at any rubber tire manufacturing facility. It includes storage and mixing vessels and the transfer equipment containing cements and solvents, wastewater handling and treatment operations, tire painting operations, ink and finish operations, process equipment cleaning materials, tire building operations, green tire spray operations, marking operations, tire striping operations, tire repair operations, slab dip operations, and other tire building operations to the extent that cements and solvents are used.

Tire cord production is the collection of all processes engaged in the production of tire cord. It includes dipping operations, drying ovens, heat-set ovens, bulk storage tanks, mixing facilities, general facility vents, air pollution control devices, and warehouse storage vents. Puncture sealant application is the puncture sealant application booth operation used to apply puncture sealant to finished tires. The rubber processing affected source is the collection of all rubber mixing processes that either mix compounds or warm rubber compound before the compound is processed into components of rubber tires. The national standard will reduce emissions of hexane, toluene, formaldehyde, styrene, and methanol and other HAPs by approximately fifty-three percent (53%) nationwide.

Compliance with the emission limits in the federal rule can be accomplished by a purchase alternative (use only cements and solvents that as purchased contain no more HAPs than allowed by the emission limits), use cements and solvents in such a way that the monthly average HAP emissions do not exceed the emission limits, or use a control device to reduce HAP emissions so that the monthly average HAP emissions do not exceed the emission limits. Existing sources subject to the regulation must comply by July 11, 2005, and new and reconstructed sources must comply at initial startup.

Scheduled Hearings

First Public Hearing: April 16, 2003, Room A, Indiana Government Center South, 402 West Washington Street, Indianapolis, Indiana.

Second Public Hearing: Tentatively scheduled for June 4, 2003.

Consideration of Factors Outlined in Indiana Code 13-14-8-4

Indiana Code 13-14-8-4 requires that in adopting rules and establishing standards, the board shall take into account the following:

- 1) All existing physical conditions and the character of the area affected.
- 2) Past, present, and probable future uses of the area, including the character of the uses of surrounding areas.
- 3) Zoning classifications.
- 4) The nature of the existing air quality or existing water quality, as appropriate.
- 5) Technical feasibility, including the quality conditions that could reasonably be achieved through coordinated control of all factors affecting the quality.
- 6) Economic reasonableness of measuring or reducing any particular type of pollution.
- 7) The right of all persons to an environment sufficiently uncontaminated as not to be injurious to:
 - (A) human, plant, animal, or aquatic life; or
 - (B) the reasonable enjoyment of life and property.

Consistency with Federal Requirements

The new rules are consistent with federal rules.

Rulemaking Process

The first step in the rulemaking process is publication of one of three types of notices in the *Indiana Register*. The first type of notice is a first notice of comment period. The first notice of comment period includes a discussion of issues and opens a first comment period. A second notice is then published which contains the comments and the departments responses from the first comment period, a notice of first meeting/hearing, and the draft rule. The second type of notice is a section 7 notice. A section 7 notice contains a determination by the commissioner under IC 13-14-9-7 that only one comment period is required. It contains the commissioner's determination and findings, the draft rule, a request for written comments and a notice of first meeting/hearing. The third type of notice is a section 8 notice. A section 8 notice contains a determination by the commissioner under IC 13-14-9-8 that no public comment periods are required. It contains the commissioner's determination and findings, the draft rule and a notice of first meeting/hearing. In each case the Air Pollution Control Board holds the first meeting/hearing and public comments are heard. The proposed rule is published in the *Indiana Register* after preliminary adoption along with a notice of second meeting/hearing. If the proposed rule is substantively different from the draft rule, a third comment period is required. The second public meeting/hearing is held and public comments are heard. Once final adoption occurs, the rule is reviewed for form and legality by the Attorney General, signed by the Governor, and becomes effective 30 days after filing with the Secretary of State.

IDEM Contact

Additional information regarding this rulemaking action may be obtained from Gayla Killough, Rule Development Section, Office of Air Quality, (317) 233-8628 or (800) 451-6027 (in Indiana).